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No. 65, Original

In the Supreme Court of the United States

STATE OF TEXAS,
Plaintiff

v.

STATE OF NEW MEXICO,
Defendant

UNITED STATES OF AMERICA,
Intervenor

REPORT AND RECOMMENDATIONS

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Special Master

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OCTOBER TERM, 1982

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REPORT AND RECOMMENDATIONS OF SPECIAL MASTER

INTRODUCTION

The Special Master believes that submission of this Report and Recommendations is appropriate under the 1975 order of his appointment. 423 U.S. 542. The case presents a controversy over the Pecos River Compact, intended by the signatory States to apportion the use of the waters of the Pecos River. The Compact contemplates continuing administration of the Pecos in conformity with Compact terms.

With stated exceptions, the Compact imposes on New Mexico, the upstream State, an obligation not to deplete the state line flow below that available to Texas under the "1947 condition." The genesis of the controversy was the meaning of "1947 condition." The Master rejected the conflicting contentions of the States and defined the phrase. The Court approved his definition. 446 U.S. 540. The legal definition must be translated into water quantities to provide a numerical standard for measurement of compliance. The States have long disagreed, and continue to disagree, over the quantification of stream flows. The Pecos River Basin presents a unique situation which requires the determination and use of variable and unmeasurable values and

the application of hydrological techniques for analysis of stream flows.

The Compact created the Pecos River Commission as an administrative agency to perform the required tasks. For twenty years, including seven years since this suit was filed, the Commission has not performed the duties, and exercised the powers, delegated to it. The reason is an impasse resulting from the Compact requirement of unanimous approval of Commission action. The States concede the impasse but disagree on the remedy.

Texas asks the Court to perform the Commission's duties and exercise its powers. New Mexico says that the Court may not perform administrative responsibilities and asks that the action be dismissed. The Master believes that resolution of the controversy requires the adoption of some method to break the deadlock. This Report presents the Master's recommendations and his supporting reasons.

Because of the use of acronyms and technical terms in the Record, this Report, and the Master's 1977 and 1979 Reports, a Glossary is appended as Appendix A. It is noted that S.D. 109 refers to the report of the Chairman of the Senate Interior and Insular Affairs Committee to the United States Senate when the bill for congressional consent to the Compact was pending. See Senate Document 109, 81st Cong. 1st Sess.

RECOMMENDATIONS

The Master recommends that:

(1) The New Mexico motion to dismiss the action be denied.

(2) The Texas motion to substitute double mass analysis for river routing be denied without prejudice to consideration and action thereon by the Pecos River Commission.

(3) The United States representative on the Pecos River Commission, or a third party, be vested with power to participate and act in all Commission deliberations and to vote to resolve any impasse created by failure of the

representatives of Texas and New Mexico to agree.

(4) Texas and New Mexico be ordered to return forthwith to the Pecos River Commission for performance by it of the duties, and exercise by it of the powers, delegated to it by the Compact.

(5) The Court retain jurisdiction of the case.

BACKGROUND

A physical description of the Pecos River Basin appears in the Master's 1979 Report, pp. 5–10. The Basin has three main divisions: (1) the New Mexico area above Alamagordo, (2) the New Mexico area between Alamagordo and the New Mexico-Texas state line, and (3) the Texas area below the state line. The Alamagordo-state line area is important to the controversy.

A history of the controversy appears at pp. 10–11 of the Master's 1979 Report. The interstate dispute, which began about 1914, resulted in the Pecos River Compact ratified by the States and consented to by Congress in 1949. 63 Stat. 159. A copy of the Compact is appended as Appendix B.

For its administration, the Compact creates, Art. V, an agency known as the "Pecos River Commission" and composed of one representative each of the United States, New Mexico, and Texas. The United States representative "shall not have the right to vote in any of the deliberations of the Commission," Art. V(a).

Apportionment of stream flow is made by the Art. III (a) obligation on New Mexico which provides:

> ". . . New Mexico shall not deplete by man's activities the flow of the Pecos River at the New Mexico-Texas state line below an amount which will give to Texas a quantity of water equivalent to that available to Texas under the 1947 condition."

The phrase "deplete by man's activities" is defined by Art. II (e) and excludes therefrom "diminution of such [Pecos River] flow by encroachment of salt cedars or other

like growth, or by deterioration of the channel of the stream."

The term "1947 condition" is defined as "that situation in the Pecos River Basin as described and defined in the Report of the Engineering Advisory Committee." Art. II (g).

Unless otherwise ordered by the Commission the determination of stream flows is made by the "inflow-outflow method." Art. VI (c). The Commission has adopted no other method.

"The inflow-outflow method involves the determination of the correlation between an index of the inflow to a basin as measured at certain gaging stations and the outflow from the basin." See Inflow-outflow Manual adopted by the Compact negotiators and appearing at S.D. 109, p. 149.

The engineering advisors to the Compact negotiators presented a series of river routing studies. Such a study purports to show numerically quantitative stream flows at various points and times. The negotiators approved and acted on the study entitled, "Summary of Operations 1947," S.O. 1947. A summary of that study is attached as Appendix A to the Master's 1979 Report.

In 1949 the Commission had difficulty in determining the 1947 condition as presented by S.O. 1947 and as operationally directed by the Inflow-outflow Manual. The Commission directed the engineers to "determine more accurately the 1947 Condition as defined in the compact," and to study and investigate "the items recommended in the Inflow-Outflow Manual." See Master's 1979 Report, p. 27. For a more detailed statement of Commission action, see the August 1, 1978, Statement of New Mexico "River Commission Administrative History."

In 1960 the engineers presented, and in 1962 the Commission adopted for limited purposes, "Report on Review of Basic Data," RBD. RBD is a river routing study comparable to S.O. 1947 but using a different period, revised USGS records, different assumptions, and different hydrologic and mathematic procedures than those used in S.O. 1947. A copy of the RBD routing study, similar in style to

the S.O. 1947 study, is attached to the Master's 1979 Report as Appendix B.

Using RBD, the Commission found an aggregate negative state line departure by New Mexico for the period 1952–1961 of 5,300 acre feet. The Commission did not determine whether the departure was caused by the activities of man. Minutes of Commission November 9, 1962, meeting, Stip. Ex. 4 (b), vol. 1, pp. 256–258. At the same meeting the engineers were directed to proceed with a draft of a new inflow-outflow manual. Id. p. 258.

No new inflow-outflow manual was ever adopted. After 1962, Compact administration was frustrated by the Compact permitted one-state veto. Proposals of Texas were rejected by New Mexico and vice versa. The Master believes that each state in good faith urged acceptance of its Compact interpretation and its position on basic facts and accounting techniques. Texas responded to the stalemate in 1974 by its motion for Court permission to file the complaint in the instant suit.

REASONS FOR CONTROVERSY

The controversy is before the Court because the Commission has been unable to resolve it by performing and exercising the powers delegated to it by the Compact. State vetoes, permitted by the Compact, resulted from disputes between the States over basic facts and accounting techniques.

The Compact made the disputes inevitable. It requires administration by the inflow-outflow method, a method intended to account for stream flows and to relieve an upper state from responsibility for the failure of nature to provide precipitation which creates stream flow. The method requires the establishment of a base relationship between inflow indices and outflow quantities. Annual relationships are determined and compared to the base to determine delivery departures, either affirmative or negative. The application of the inflow-outflow method to the Pecos River presents many complications.

Both the inconstancy of rainfall and the geologic conditions of the Pecos Basin present unique complications. A 1942 Report of the National Resources Planning Board, Stip. Ex. 11 (b), p. 12, says:

> "As a consequence of gains resulting from the inflow of flood waters, spring and other ground waters, and return flow, and of losses resulting from irrigation, consumption by native vegetation, reservoir evaporation, channel losses, and reservoir leakage, the flow of the Pecos River from the upper to the lower basin is extremely variable. *In fact, in the absence of flood inflows, the normal basic flow is entirely lost and reestablished many times in the length of the stream.*" [Emphasis supplied.]

The Compact negotiators were told, S.D. 109, p. 2, that: "The water supply [of the Pecos] is not sufficient adequately to serve present development." The negotiators were faced with the apportionment of an inadequate flow of an inconstant, and at times disappearing, stream. The tools given to the Commission for Compact administration proved as unreliable as the stream flows. Admittedly, both the 1947 routing study and the Inflow-outflow Manual contained mistakes, inconsistencies, omissions and uncertainties. The difficulties were recognized as early as a 1949 meeting of the Commission held about six months after the grant of congressional consent to the Compact. See Master's 1979 Report, p. 27.

The complexity is shown by the S.O. 1947 and RBD routing studies attached to the Master's 1979 Report as Appendices A and B respectively. Except for year identification, all of the hundreds of numbers appearing in those studies are computed values. Many of the values shown are both unmeasured and incapable of measurement. Their computation depends on assumptions and mathematic equations, neither of which are identified with certainty. Over half of the inflow indices are derived from unmeasured, but computed, flood inflows.

The disputes center around stream accretions and channel losses and involve substantial quantities of water. The

accretions and losses are not capable of measurement and must be computed. Among the methods used are water budget and hydrograph scalping. The results obtained are used to produce graphs intended to show the base relationship. The S.O. 1947 graph is found as Plate 2 in S.D. 109, p. 154. RBD contains a revised Plate 2 found at Stip. Ex. 5, p. 9. The location of the curve is determined by the application of the theory of least squares to the indicator points. The parties differ whether certain curves of the graphs should be determined by the "best fit" or "envelope" method. The parties differ whether certain flood years should be included in the determination of the relationship. None of the mentioned disputes was resolved by the Commission. The Commission's inaction produced this suit.

HISTORY OF LITIGATION

In 1975 the Court granted leave to Texas to file its complaint, 421 U.S. 927, and the Master was appointed later that year, 423 U.S. 942. The complaint alleges, paragraphs IV and V, that New Mexico has breached the Compact by permitting depletions by man's activities to the extent that there has been a cumulative departure of 1,200,000 acre-feet from that available under the 1947 condition as defined in the Report of the Engineering Advisory Committee and applied by the Inflow-outflow Manual. Paragraph VI charges that New Mexico through its Compact Commissioner has refused to apply the Compact principles and thus deprived Texas of water. Further allegations go to injury and remedy.

The New Mexico answer denies specific allegations of Paragraphs IV and VI and all of Paragraph V. The answer also asserts several affirmative defenses.

The United States was permitted to intervene. 423 U.S. 1085. The Master rejected the New Mexico affirmative defenses in a Report which the Court received and ordered filed. 434 U.S. 809.

On October 31, 1977, the Master entered a Pre-Trial Order approved by each State. The Order required the Master to first hear and determine three issues:

(1) Paragraph 4 (a) – the obligation of New Mexico to Texas under the Compact;

(2) Paragraph 4 (b) – the modification or correction of eleven specified items (essentially these were differences between S.O. 1947 and RBD);

(3) Paragraph 4 (c) – the modification or correction of the Inflow-outflow Manual.

At evidentiary hearings on the three issues, many exhibits were received and expert testimony was adduced on hydrologic, engineering, and mathematical procedures. The Master thought that if the States had a good faith desire to make the Compact workable, their engineers should be able to agree on many of the essential facts and procedures. Pursuant to a verbal order acquiesced in by the States, a meeting was held October 2–4, 1978. In attendance were two engineers from each State, the Master's technical assistant, and the Master's law clerk. The proceedings were reported and transcripts filed. See Tr. Vol. XXIII–XXVIII, pp. 2371–2914. The meeting was unproductive. No agreements were reached.

The Master's February 2, 1979, Report contained his conclusions on the ¶ 4(a), (b), and (c) issues. As to ¶ 4(a), he defined the 1947 condition. As to ¶ (b), he found the evidence insufficient to justify any conclusions on substantial differences. As to ¶ 4 (c), he held that a new Inflow-outflow Manual was required. Each State objected to his rulings on the ¶ 4(a) and (b) issues and accepted his ruling on the ¶ 4(c) issue.

The Master then separated the ¶ 4(a) issue from the others. Counsel assured him that if ¶ 4(a), New Mexico's Compact obligation to Texas, was resolved, the door would be opened for Compact administration. With regard to ¶ 4(a), Texas contended that the 1947 condition was immutably defined by the 1947 routing study. New Mexico argued that the Compact protected all New Mexico uses of Pecos water occurring in 1947. The Master rejected the

contentions of each State and defined the 1947 condition thus:

> "The 1947 condition is that situation in the Pecos River Basin which produced in New Mexico the man-made depletions resulting from the stage of development existing at the beginning of the year 1947 and from the augmented Fort Sumner and Carlsbad acreage."

The Court approved the Master's Report in all respects. 446 U.S. 540.

The Master realized that whatever definition of the 1947 condition might be made, the differences exemplified by the ¶ 4(b) issues would have to be resolved. He concluded that the resolution of the ¶ 4(b) issues should go forward while the ¶ 4(a) issue was before the Court. Pursuant to the Master's August 20, 1979, Order, New Mexico proposed a schedule to which Texas agreed at a September 17, 1979, hearing. The schedule increased the ¶ 4(b) issues from 11 to 37 and provided for exchanges of ideas and views with completion in June, 1980.

By April and June, 1980, letters, Texas told New Mexico that the Texas studies were running behind schedule and requested that no action be taken until the Court ruled on the Texas petition for rehearing of the Court's May 18, 1980, decision approving the Master's Report. Rehearing was denied on June 30, 1980. 448 U.S. 907.

During the summer and fall of 1980, correspondence, hearings, and orders failed to produce any progress. A September 18, 1980, letter from Texas counsel said that a Dr. Charnes had suggested "improved statistical treatment of the data." To support objections to a Master's Order, Texas filed an affidavit of Dr. Charnes, Master's Ex. 20, saying that he had reviewed S.D. 109, RBD, and the Texas studies and had concluded:

> "After studying and reviewing these documents and after several meetings and conferences with the staff of the Texas Department of Water Resources and/or Attorney General's Office, I reported my opinion in late August that not only the Department studies, but the studies of Senate Document 109 and Review of Basic Data were

> bject to serious criticism for a number of different reasons, *including the use of inconsistent and outdated statistical techniques which frequently allow, or even compel, a numeric description of the river's performance which we know is incorrect.*" [Emphasis supplied.]

The statement was a change from the position originally taken by Texas in the case. Previously, Texas had upheld and relied on the S.D. 109 routing studies.

On January 14, 1981, the Master ordered (1) Texas to file its final statement on the ¶ 4(b) issues by April 14, 1981, and (2) New Mexico to inform the Master by June 8, 1981, the time it would require to review the Texas position. On April 14, 1981, Texas filed with the Master a document entitled, "Texas Paragraph 4(b) Submission" in which Texas proposed:

> "a new inflow-outflow relationship depicting the 1947 condition as defined by the Special Master, based upon a double mass streamflow analysis."

A report of Drs. Charnes and Heaney was submitted. Master's Ex. 20(b). It recommends that streamflows and relationships be determined by the double mass analysis method instead of the river routing studies on which Texas had previously based its position. Texas did not state its position on the ¶ 4(b) issues as it had been required to do in the Master's January 14 order.

In response New Mexico said that the Texas submission violated the Master's Order and sought an impermissible rewriting of the Compact. New Mexico further said that it was willing to negotiate with Texas on the use of the double mass analysis but that such negotiations would take at least two years. After a July 27, 1981, hearing the Master ordered the States to negotiate for ninety days and report the result. In November, 1981, the States reported their inability to agree.

After a hearing the Master entered an order on December 29, 1981, vacating the ¶ 4(b) portion of the 1977 Pre-Trial Order. His reasons were: (1) the failure of the States either to agree or to state their final positions on the issues posed by ¶ 4(b); (2) the Texas rejection of both the 1947

routing study and RBD as a method of Compact administration ended the need for consideration of the differences between the 1947 routing study and RBD; and (3) a new inflow-outflow manual was necessary.

The Master held that administration of the Compact must accord with the inflow-outflow method and that such method requires determination of: (1) the basic facts pertinent to stream flows and other conditions in the Pecos River Basin above the state line; (2) the determination of unmeasured values pertinent to the establishment of the relationships necessary to the operation of the inflow-outflow method; (3) the determination of techniques, principles, and procedures which must be used in applying the basic facts and unmeasured values to fix the base and annual relationships essential to the operation of the inflow-outflow method; and (4) the preparation of a new inflow-outflow manual.

The Master defined basic facts as those matters of actual existence or occurrence which are capable of measurement by accepted standards. He defined unmeasured values as those matters which are not capable of measurement by accepted standards.

The Master outlined several legal issues on which he desired a statement of position by each State. The Order specifically provided the procedure to be followed.

In January, 1982, Texas filed a number of documents relating to basic facts, unmeasured values, and techniques, and a motion "to Use the Double Mass Inflow-outflow Method to account for Stream flows in the Determination of the 1947 Condition Base Relationship." Texas also presented its statements of position on the legal issues raised by the December 29, 1981, Order.

In February, 1982, New Mexico made similar filings and presented two motions. The first requested additional time to review certain Texas material which New Mexico said it had not had sufficient time to consider. Reference was made to channel losses and base flows. The other motion was that the Master "Recommend Final Decree and Dismissal."

At a March 8-16 hearing, evidence was received and arguments heard. At the conclusion the Master decided that New Mexico was entitled to an opportunity to rebut the Texas evidence and claims on the mentioned issues. The case was set for the presentation of further evidence on June 1, 1982.

On May 14, the Master received a joint motion of the States to vacate the June 1 setting on the basis of a stipulation of agreement on specified matters. Paragraph I D 4 of the Stipulation said:

> "New Mexico and Texas recognize that this Stipulation does not prevent the Pecos River Commission from adopting new data, values or procedures or from changing the data, values or procedures agreed upon in this Stipulation."

The Master vacated the June 1 setting. The matter is before him on (1) the Texas motion to use the double mass method, and (2) the New Mexico motion for final decree and dismissal.

FACTUAL ISSUES

The Court approved definition of the 1947 condition must be translated into water quantities so that there is a numerical standard against which compliance can be effectually measured. Annual depletions must be determined and measured against that standard.

The first task includes a judgmental assignment of values to many variables incapable of measurement by accepted standards, such as flood inflows, channel losses, reservoir losses, consumption by phreatophytes, and returns from diversions. All of these items have been covered by conflicting testimony and exhibits.

The May 14, 1982, Stipulation relates to many fact issues and specifies disputes for resolution by the Master. See particularly Stipulation ¶ II(b). To generalize, the disputes relate to flood inflows, channel losses, and the inclusion of certain years in the establishment of the base relationship.

Various hydrological, mathematical, and statistical procedures may be used for computation of the unmeasured values. One method is the "water budget." To determine the estimated outflow of a river division, the calculated gains are added to the measured inflow and the calculated losses are subtracted from the result. Calculation of the gains and losses requires assumptions and equations. The result may be what is known as a residual negative, i.e., a minus flow which is impossible of occurrence in a state of nature. When a residual negative occurs, Texas would stop at zero and forget minus values. New Mexico would carry forward the minus numbers. See discussion in the 1979 Master's Report, p. 51. Another method is hydrograph scalping. Hydrographs, showing stream flow at upper and lower points as a function of time, are superimposed and a line drawn across them. The distances between the graphs at the points crossed by the line are intended to separate the base flow and the flood flow. The place and manner in which the line is drawn are matters of individual engineering judgment.

The engineering problems and differences are exemplified by the testimony of the experts. See e.g. Texas witness Bell, Tr. vols. VII through X; Texas witness Whitenton, Tr. vols. XXI, XL, XLI and XLII; Texas witness Martin, Tr. vols. XLI and XLII; New Mexico witness Slingerland, Tr. vols. XII through XV; New Mexico witness Flook, Tr. vols. XXXIX, XL, and XLIII. Examination of the exhibits discloses the number, variety, and complexity of the details which go to make up the problem. See e.g., Stip. Ex. 8; Texas Exhibits 6-8, 39, 41, 51, and 59; New Mexico Exhibits 10-40, 50, 54, 56, and 57. The significant differences between S.O. 1947 and RBD are shown by Texas Ex. 20 which compares annual averages for the 1919-1947 period. RBD shows flood inflow 4,000 acre feet less than S.O. 1947, channel loss 26,000 acre feet greater, and state line flow 44,000 acre feet less. These quantities are substantial for a small stream such as the Pecos.

Determination of the pertinent values, both measured and unmeasured, is just the beginning of a solution to the problem. The numbers must be converted into a base relationship to which annual flows may be compared for determination of departures. The States present different procedures to accomplish this task. Texas has rejected river routing and now relies on double mass analysis. New Mexico rejects double mass and insists on river routing.

A routing study superimposes a water supply on a condition of use. Erickson Tr. 894. Double mass analysis "is a cumulative plot of upstream inflow versus downstream outflow." Texas Ex. 41, p. 6. Each is essentially an accounting procedure usable in the administration of the inflow-outflow method. Each produces a curve intended to present graphically the 1947 condition. The S.O. 1947 curve appears at Plate 2, S.D. 109, p. 154; the RBD curve as Revised Plate 2, Stip. Ex. 5, p. 9; the double mass curve as Figures 18 and 19, Texas Ex. 41, pp. 39-40.

To prepare a curve, indicator points are plotted on a graph. See e.g. S.D. 109, pp. 151-152 and Plate 2 at p. 154. The points represent three-year progressive means. See Compact Art. VI (b). The river routing studies locate the curve in relation to the points by the least squares method. The double mass uses the theory of least absolute values for the same purpose.

Texas witness Charnes at Tr. 3662-3663 describes the difference between least squares and least absolute values and says the latter is "a more robust criterion." Despite Charnes' criticism of least squares, Texas witness Bell used least squares in preparing the double mass curves shown on Texas Exs. 7 and 8 and described his use of that method. Tr. 594-595. The use of either method requires complex equations. See e.g. Texas Ex. 41, App. 2, pp. 56-58.

After the values and the accounting procedures are determined a manual must be prepared to state with specificity how the base relationship is established and how the annual relationship must be determined. For such complex numerical requirements computer use is indicated. The

task of providing directions for programming a computer is for experts.

Texas asks the Court to resolve the disputes. Such Court action may be futile because Compact operation requires continuing administration to determine annual departures and that administration may be frustrated by the one-state veto. New Mexico says that the Court may not perform administrative duties and responsibilities delegated to the Commission and asks that the case be dismissed. Such action may leave Texas without a remedy and prolong the delay which is to the advantage of New Mexico. In the circumstances, the Master believes that a solution of the one-state veto problem should be made before undeterminable amounts of time and money are expended in consideration of the intricate and interrelated disputes.

LEGAL ISSUES

(a) General.

Art. III, § 2, cl. 2 of the United States Constitution gives the Supreme Court original jurisdiction over cases in which a State is a party. That jurisdiction has been used in controversies over the division of the use of interstate stream flows, and the principle of equitable apportionment has been established. See Kansas v. Colorado, 206 U.S. 46, 117 (1907); Wyoming v. Colorado, 259 U.S. 419, 464 (1922); Colorado v. Kansas, 320 U.S. 383, 385 (1943); and Nebraska v. Wyoming, 325 U.S. 589, 610-611 (1945).

Article I, §10, cl. 3 of the Constitution provides that no State shall enter into an agreement with another State without the consent of Congress. With the consent of Congress, the States have made many compacts, some of which concern the division of the use of interstate stream flows. Equitable apportionment may be made by either Court decision or interstate compact. Hinderlider v. La Plata River & Cherry Creek Ditch Co., 304 U.S. 92, 104-106 (1938). Congressional consent "transforms an interstate compact . . . into a law of the United States." Cuyler v. Adams, 449 U.S. 433, 438, and see n. 7 at 438–439 (1981).

The Art. I, § 8, cl. 3, power of Congress to regulate commerce among the several States has no application to this case. The Compact apportions the "use" of the waters of the Pecos. A right to the use of flowing water is not ownership in the corpus of the water. A right of use is an alienable property right subject to acquisition by compliance with applicable state law. See Hutchins, Selected Problems in the Law of Water Rights in the West (1942). United States Department of Agriculture, Misc. Pub. No. 418, pp. 27-34. The equitable apportionment cases recognize that the right is that of use. Because a State has only the right to an equitable share of the water in a stream, no state proceeding can award a right of use in excess of the state's equitable share. Hinderlider v. La Plata, supra, 304 U.S. at 108-109.

Although water is an article of commerce, Sporhase v. Nebraska, __ U.S. __, 50 LW 5115 (1982), rights of use are in a different category. In Arizona v. California, 283 U.S. 423, 459 (1931), the Court said:

> "To appropriate water means to take and divert a specified quantity thereof and put it to beneficial use in accordance with the laws of the state where such water is found, and, by so doing, to acquire under such laws, a vested right to take and divert from the same source, and to use and consume the same quantity of water annually forever, subject only to the right of prior appropriations."

Congress has consistently recognized state regulation of the rights to use water of streams which either flow interstate or are tributary to interstate streams. See Reclamation Act of 1902, 32 Stat. 388, and McCarran Amendment, 43 U.S.C. § 666. The Court has given similar recognition. See California v. United States, 438 U.S. 645 (1978); United States v. New Mexico, 438 U.S. 696 (1978); and Colorado River Water Conservation Board v. United States, 424 U.S. 800 (1976). The establishment of property rights in the use of water is a state function, which has not as yet been taken over by the federal government. The water rights derived under New Mexico law may not

exceed in toto the New Mexico share of Pecos water. Hinderlider v. La Plata, supra, 304 U.S. at 108.

Interstate water compacts recognize the need for continuing administration. Many provide no remedy for resolution of an impasse. Some provide that a federal representative shall have a vote. Others supply procedures for arbitration. For the information of the Court, the attached Appendix C notes the pertinent provisions of a number of interstate water compacts. The Master has found none which delineate the power of a court to break a compact created deadlock. Also, research disclosed no court decision bearing on the problem.

(b) Agency Impasse.

Texas does not seek review of agency action. Instead it asks the Court to act in place of the agency. The legal status of the agency deserves consideration.

The Cuyler v. Adams statement that a compact made with the consent of Congress is a law of the United States, 449 U.S. at 438, would seem to raise the possibility that the Commission is a federal agency. If it is, consideration should be given to the Administrative Procedures Act provision that a reviewing court shall "compel agency action unlawfully withheld or unreasonably delayed." 5 U.S.C. § 706(1). Such compulsion cannot be ordered here because only the States are parties to the suit. Neither the Commission nor its members were joined.

The Master has concluded that the Commission is not a federal agency. No state or federal intent to create a federal agency is shown. The use of interstate compacts is diminished if they create a federal administrative agency subject to all the ramifications of federal statutes and federal decisions delineating the scope of judicial review of administrative action. As said in California Tahoe Regional Planning Agency v. Jennings, 9 Cir., 594 F.2d 181, 190 (1979), cert. denied 444 U.S. 864, the consent of Congress "did not make applicable to the agreement the entire panoply of *federal* administrative and substantive standards." [Emphasis in original.]

Research has revealed but one case concerned with the failure of a compact-created agency to act. British Airways Board v. Port of Authority of New York and New Jersey, 2 Cir., 564 F.2d 1002 (1977). The operator of Concorde airliners sued to enjoin the Port Authority from preventing by inaction the use of international airports under its control by the Concorde. The court said, Id. at 1010: "The law simply will not tolerate the denial of rights by unwarranted official inaction." That case was not brought by a signatory to the compact but by an affected enterprise. Here we have an action by one signatory against the other.

Neither Texas nor New Mexico meets the impasse issue squarely.

(c) Breach of Contract.

Texas emphasizes that it sues to secure performance of the Compact, not to review Commission action. The Texas complaint alleges that New Mexico has breached the Compact in two ways: (1) failure to deliver in accordance with its Compact obligation, and (2) New Mexico through its Compact Commissioner has refused to apply Compact principles. See Complaint ¶ IV, V, and VI.

With regard to the second allegation, Texas assumes that the Compact principles are those for which it contends. The prolonged controversy shows that the Compact and its administration are controversial. The Court-approved definition of the 1947 condition rejected both the Texas and the New Mexico arguments for Compact interpretation. Nothing in the record shows that the New Mexico Commissioner was any more at fault than his Texas counterpart.

With regard to the first allegation, Texas assumes both the obligation and its violation. Until the obligation is determined violation may not be established. The obligation is still uncertain because the definition of the 1947 condition must be translated into water quantities to provide a numerical standard.

Green v. Biddle, 8 Wheat. (21 U.S.) 1, 92 (1823), says that "the terms compact and contract are synonymous." The Court has recognized that from a practical standpoint an interstate compact imposes a contractual obligation on each of the compacting states. See Dyer v. Sims, 341 U.S. 22, 28 (1951). Questions of obligation and breach are for determination by the Supreme Court. Id. and see Kentucky v. Indiana, 281 U.S. 163, 176 (1930). Neither State may decide these questions unilaterally. Hinderlider v. La Plata, supra, 304 U.S. at 110.

None of the Supreme Court decisions treating a compact as a contract has concerned apportionment of the use of interstate stream flow. The Pecos Compact must be viewed in the light of its intent to provide an equitable apportionment. A breach of contract case presents legal principles; an equitable apportionment case equitable principles. The instant case cannot be viewed as a simple contract action. The problem is what procedure is proper and desirable to achieve equitable apportionment.

(d) Continuation of the Suit.

As presently postured, continuance of the law suit will require:

(1) Determination of disputed issues pertaining to unmeasured values.

(2) Determination of disputed policy issues pertaining to accounting techniques.

(3) Preparation of a manual directing how the unmeasured values are to be determined and the techniques are to be used.

(4) Determination of the base relationship depicting the 1947 condition.

(5) Determination of the annual departures since 1961.

(6) Determination of whether any negative departures resulted from man's activities.

(7) Determination of what relief, if any, Texas may receive.

From his experience in this litigation, the Master estimates that 2-5 years will be required and the costs will be substantial.

The United States and the States seem to agree that continuation of the law suit is within the judicial function because the Compact grant of fact-finding power to the Commission does not preclude the judiciary from exercising similar power. The United States notes two exceptions: (1) the Art. VI(b) requirement that measurements shall be made on the basis of three-year periods; and (2) the Art. VI(c) provision that the inflow-outflow method shall be used unless otherwise directed by the Commission. See August, 1982 Memorandum of Solicitor General.

Texas and New Mexico say that if the case is to proceed, the next step should be the determination of the ¶ 4(b) issues. That paragraph presents eleven issues. They have never been resolved although the experts have testified at length and presented many exhibits.

On May 14, 1982, the States presented a Stipulation for approval by the Master. The Master has withheld approval because of his doubt as to the meaning of the Stipulation. Paragraph I B lists five documents. Paragraph I E reads:

> "With the modifications specified in IIA and with the qualifications, exceptions and restrictions specified in ID and IIB, New Mexico and Texas agree to the basic facts, unmeasured values and techniques set forth in the documents listed in IB."

Paragraph I D 4 says the States recognize the Commission power to adopt and change data, values, and procedures. The Stipulation is a mass of words and figures which challenge ingenuity but destroy clarity. Further proceedings in the case are adventures on uncharted hydrologic seas.

New Mexico continues to insist on the application of RBD. The Master rejected this argument in his 1979 Report, pp. 40–41, by concluding that RBD was approved and adopted only for the determination of state line departures for the 1952–1961 period and not for future periods. The

Commission, with unanimity, directed its engineers to proceed with the draft of a new inflow-outflow manual. The task was never completed. The Master adheres to his 1979 ruling.

Texas rejects river routing and insists on double mass analysis. That technique produces a straight-line relationship of outflow to inflow. Texas Ex. 41, Figure 17, p. 35. The Texas experts curved the line slightly "as requested by Texas Attorneys." Tr. 3685. The result appears as Figure 19, Texas Ex. 41, p. 41. The testimony and exhibits of witness Flook cover many objections to the use of double mass. See Tr. vol. XXXIX, pp. 36–59 and N. Mex. Ex. 50. The engineering advisors to the Compact negotiators noted in their Report, S.D. 109, pp. XXXIII–XXXIV:

> "A compact based on an allocation of water on a straight-line percentage basis is not feasible or practical. The flow of water at any point in a given stream, under natural conditions, does not bear a straight-line relation to the inflow to the stream above that point."

In the circumstances presented the Master is unwilling to substitute double mass analysis for river routing. The Master recognizes that the Commission, under the powers given by Art. VI, may do so.

Solution for the factual and policy disputes requires expertise in hydrology, statistics and mathematics. The Master does not have that expertise. He is not trained to scalp hydrographs, draw properly located graph curves, or program computers. His choice among competent and credible experts would be arbitration by instinct, not decision by law.

Continuation of the law suit will keep the lawyers and their experts busy and may accomplish nothing. The administration of any decree determining the disputes will require Commission action and invite a one-state veto. Past experience and the present attitudes of the States indicate the potential of a continuing impasse.

The existence of this potential means that a Court decree determining the many unknown variables and the specific

accounting techniques would be without binding effect and could be completely thwarted by the Commission. The decree would be advisory, not obligatory. The Court has repeatedly refused to enter advisory opinions. In FCC v. Pacifica Foundation, 438 U.S. 726, 734–735 (1978), the Court said: "However appropriate it may be for an administrative agency to write broadly in an adjudicatory proceeding, federal courts have never been empowered to issue advisory opinions." See Aetna Life Ins. Co. v. Haworth, 300 U.S. 227, 240–241(1939): and Herby v. Pitcairn, 324 U.S. 117, 126 (1945).

(e) Judicial Solution of the Controversy

New Mexico contends that the action should be dismissed because the Court may not perform the responsibilities and exercise the powers delegated to the Commission. The Compact's requirement that the Commission evaluate stream flows and make findings as to depletion by man's activities, Art. V(4), (5), (6), and (12), and Art. VI(b) and (c), presents matters involving no specific legal principles. In the ordinary context of judicial review of agency action, courts determine whether there is law to apply, a question of law, and whether particular activities transcend allowable discretion, also a question of law. The Pecos Commission has taken no action and exercised no discretion. There is nothing to review. The Court is asked to take the actions which the Commission has not. To sustain that request the States have produced a record of expert testimony and exhibits Choice must be made between conflicting and rationally supported opinions of competent and credible experts. That choice should be made in the first instance by the administrative agency and then be subjected to judicial review.

The Court has said that it cannot "exercise or participate in the exercise of functions which are essentially legislative or administrative." Federal Radio Commission v. General Electric Company, 281 U.S. 464, 469 (1930). The Court cannot establish administrative procedures de novo,

Federal Communications Commission v. Schreiber, 381 U.S. 279, 290–291 (1965); modify the terms of an agency-issued license, Federal Power Commission v. Idaho Power Company, 344 U.S. 17, 20–21 (1952); or prescribe rates, Central Kentucky Natural Gas Company v. Railroad Commission, 290 U.S. 264, 271 (1933).

In original jurisdiction interstate controversies, the Supreme Court is the fact finder. It accepts or rejects recommendations of an appointed Master. In Ohio v. Wyandotte Chemicals Corp., a pollution case, 401 U.S. 493, 504 (1971), the Court said:

> "Indeed, Ohio is raising factual questions that are essentially ones of first impression to the scientists. The notion that appellate judges, even with the assistance of a most competent Special Master, might appropriately undertake at this time to unravel these complexities is, to say the least, unrealistic."

In Vermont v. New York, 417 U.S. 270, 277 (1974), the Court declined to act in "an arbitral rather than a judicial manner," and said that its original jurisdiction extended "to the adjudication of controversies between States according to principles of law."

In Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 558 (1978), the Court commented that administrative decisions should be set aside "only for substantial procedural or substantive reasons as mandated by statute." A corollary is that the Court may not make policy decisions which have been delegated to an administrative agency.

The Master doubts whether the judicial power extends to the exercise of the administrative functions at issue here. Even if it does have the power, the impasse problem persists. Paragraph I D 4 of the States' May 14, 1982, Stipulation recognizes that the Stipulation does not prevent the Commission from adopting or changing the data, values, and procedures stipulated. Such change would require unanimous action. At the same time any administration pursuant to a court-entered decree requires unanimity in

determining water quantities, changes in depletion, and causes of changes. Any lack of unanimity in making the detail findings needed to determine the mentioned major findings would cause a breakdown of administration and result in prolonging the impasse which has existed for over 20 years.

The history of the controversy, and the record in the suit, shows no hope for the elimination of the impasse by agreement. Compact, Art. XIV, provides that the Compact "may be terminated at any time by appropriate action of the legislatures of both of the signatory states." Here again unanimity is required but unlikely. Congressional withdrawal of consent might produce legal as well as political problems. Any effort by Congress to regulate the use of water of interstate streams has not occurred and would present many legal and political complications. Judicial action seems to present the only avenue for solution.

The Court might declare the Compact invalid because of a vitiating infirmity, impossibility of performance. See Hinderlider v. La Plata, supra, 304 U.S. at 108-109. If this were done, the only remedy available to Texas would be an original jurisdiction, equitable apportionment case. Such a suit would present equitable factors which "must be weighed as of the date when the controversy is mooted." Colorado v. Kansas, 320 U.S. at 393-394. Interstate equitable apportionment cases have a history of perplexing factual complexity and long life. For example, the Laramie River litigation began in 1911 and was concluded in 1957. See Wyoming v. Colorado, 259 U.S. 419, 286 U.S. 494, 298 U.S. 573, 309 U.S. 572, and 353 U.S. 953.

This is not a case like Green v. Biddle and others where one State has acted unilaterally in violation of an interstate compact. See, e.g. Green v. Biddle, 8 Wheat. (21 U.S.) 1, and Dyer v. Sims, 341 U.S. 22, where one signatory state breached a compact. Here, each State, by the exercise of the veto power, has contributed to the frustration of the Compact purpose of equitable apportionment. See the New Mexico 1978 Statement on Pecos River Administrative History, pp. 27-30. A February 17, 1977,

Commission meeting lasted 18 minutes with unanimity only on a motion to adjourn. See Master's 1977 Report on the New Mexico Affirmative Defenses, pp. 32-34. The long continuing, recalcitrant, intransigent, and uncompromising attitudes of the States negate any hope of unanimity.

The Master believes that the equity power of the Court sufices to provide a judicial solution for the impasse. In private litigation the Court has said:

> "The essence of equity jurisdiction has been the power of the Chancellor to do equity and to mould each decree to the necessities of the particular case."

Hecht Co. v. Bowles, 321 U.S. 321, 329 (1944). See also Weinberger v. Romero-Barcelo, __ U.S. __, 102 S. Ct. 1798, 1802–1803 (1982). The same principle may well be applied in litigation between States.

When a deadlock occurs in private affairs, a recognized solution has been the court appointment of a receiver. The application of such a remedy to governmental affairs would seem to be beyond the judicial function. The Court might appoint a water master to administer the stream but it has twice refused to do so. See Vermont v. New York, 417 U.S. 270, 274–275 (1974); and Wyoming v. Colorado, 298 U.S. 573, 586 (1936).

In the Colorado River litigation, Arizona v. California, 373 U.S. 546 (1963), the Court found congressional intent in the 1928 Boulder Canyon Project Act, 45 Stat. 1057, to charge the Secretary of the Interior with authority and responsibility to manage the Lower Colorado River, though that Act contained only minimal standards. Although we have here no explicit grant of authority, the varying approaches to the built-in possibility of impasse in compacts between or among states, see Appendix C, furnish a basis for inferring that the parties contracted with full knowledge that disputes under the compacts can only be finally resolved by resort to the Court's original jurisdiction. This in turn supplies a basis for judicial action predicated on having on-going stream administration involving technical

and engineering judgments determined in the first instance by the administrative agency, even though it be necessary to augment that agency by a judicially-added provision for a tie-breaking vote.

Progress must be made toward the solution of this prolonged controversy over the apportionment of the Pecos River stream flows; continued deadlock favors New Mexico, the upstream state. The Master concludes that the impasse can best be resolved by provision for third-party participation in deadlocked Commission deliberations.

A tie-breaker can be selected in several ways. The preferable solution would be agreement between the States on a procedure to break the impasse and their selection of an individual or individuals empowered to act when the States disagree. The long history of this controversy and the attitude of the States in this litigation present little hope of agreement. Perhaps, compulsion by a Court order might be effective.

The Master believes that the equity powers of the Court are adequate to provide a remedy. If within a reasonable time, say ninety days, the States do not agree on a tie-breaking procedure, the Court would be justified in ordering, on an interim or *pendente lite* basis, that either the representative of the United States, or some other third-party, be designated and empowered to participate in all Commission deliberations and act decisively when the States are not in agreement. The order should provide that the decision of the tie-breaker is final, subject only to appropriate review by the Court. Upon the selection of a tie-breaker, the States should be ordered to return to the Commission for determination of this long-standing controversy. Without provision for a tie-breaker, any order for return to the Commission will be futile.

CONCLUSIONS OF MASTER

For the reasons stated herein, the Master concludes: (1) the New Mexico motion to dismiss the action should be denied; and (2) the Texas motion to substitute double mass

analysis for river routing should be denied without prejudice to consideration by the Commission.

The Master also concludes that further progress in this case will require him, and later the Court, to perform administrative duties and exercise administrative powers delegated to the agency created by the Compact. The Master believes that such exercise of administrative power is beyond the judicial function.

Absent agreement and cooperation by the States, the disputes which have long separated them should be resolved by the administrative agency created by the Compact. A return to the Commission will serve no useful purpose unless the impasse problem is solved. The solution of that problem is significant not only to this case but to the many other interstate water compacts which require unanimity in stream flow administration. In the absence of a definitive Court decision, the Master has concluded that the impasse can be cured by the participation of a third-party in Compact deliberations when the States are in disagreement. No other method has been suggested by any party to this suit. In the opinion of the Master the equity powers of the Court permit its designation of such a tie-breaker.

Any Court decree should recognize the right to apply for amendment or further relief. See, e.g., the language of the North Platte decree, Nebraska v. Wyoming, 325 U.S. at 671:

> "Any of the parties may apply at the foot of this decree for its amendment or further relief. The Court retains jurisdiction of this suit for the purpose of any order, direction, or modification of the decree, or any supplementary decree, that may at any time be deemed proper in relation to the subject matter in controversy."

In the North Platte case, the Court granted the request of the parties for the entry of a supplemental decree. See Nebraska v. Wyoming, 345 U.S. 981 (1953).

The alternative to the recommendations of the Master is the continuance of the suit as presently postured. If that is done, the time and money required are each conjectural.

Denver, Colorado, September 10, 1982.

Jean S. Breitenstein
Special Master

C–446 U.S. Courthouse
1929 Stout St.
Denver, Colorado 80294

APPENDIX A
GLOSSARY

1 – A.F. or af:	Acre Foot or acre feet. A measurement of water quantity. One acre foot is the quantity of water and would cover one acre to a depth of one foot.
2 – Agency:	The Pecos River Commission.
3 – Alamagordo:	The designation of the gage used to determine stream flows into the middle area. In the record this gage is sometimes also referred to as Guadalupe and as Sumner.
4 – Angeles:	See State line.
5 – C.F.S. or cfs:	One cubic foot per second. A measurement of water flow. One second foot of water flowing for 24 hours produces 1.983 acre feet.
6 – Channel Losses:	Unmeasured depletions of Pecos flows resulting from evaporation, bank storage, disappearance into the subsurface, and consumption by natural vegetation, principally phreatophytes.
7 – Commission:	See Pecos River Commission.
8 – Compact:	See Pecos River Compact.
9 – Double Mass Analysis:	A method of analyzing stream flows by a cumulative plot of upstream inflow versus downstream outflow.
10 – Flood inflows or Flood Flows:	Unmeasured accretions to the Pecos River resulting from unusual precipitation.
11 – Guadalupe:	See Alamagordo.
12 – Hydrograph:	A graph representing flow or other property of water as a function of time.
13 – Inflow-Outflow Manual:	A handbook prescribing how the inflow-outflow method be applied to practical use.

14 – Inflow-Outflow Method:	A procedure for determining the water delivery of an upper state to a lower state.
15 – Master's 1979 Report:	His Report to the Court on the New Mexico delivery obligation.
16 – 1947 Condition:	The Compact standard for determination of the New Mexico delivery obligation.
17 – Pecos River Commission:	The administrative agency created by the Compact for its administration. The Commission is composed of one representative each for the United States, Texas, and New Mexico with the United States representative having no right to vote.
18 – Pecos River Compact:	The Compact made by Texas and New Mexico to apportion Pecos River water. The Compact became effective by the 1949 grant of congressional consent. See 63 Stat. 159.
19 – Pecos River Compact Commission:	The body which negotiated the Compact. It was composed of one voting representative each of the United States, Texas, and New Mexico.
20 – Phreatophytes:	See channel losses.
21 – RBD – Review of Basic Data:	A river routing study presented by engineers to the Commission and used by it in a limited fashion. Details of the study are found in Appendix B to the Master's 1979 Report.
22 – Red Bluff:	See state line.
23 – River Routing Study:	An analysis of the quantity and availability of stream flows under various conditions both actual and assumed.

24 - S.D. 109: Senate Document 109, 81st Cong. 1st Sess. A report to the United States Senate by the Chairman of the Senate Committee on Interior and Insular Affairs when the bill for the grant of consent to the Compact was before Congress.

25 - S.O. 1947: Summary of Operations 1947, a river routing study presented to the Compact negotiators by their engineers. The details of the study are found in Appendix A to the Master's 1979 Report.

26 - State Line: The point where the Pecos crosses the boundary between New Mexico and Texas. This point is sometimes referred to as Angeles or Red Bluff. The Pecos flow, plus the Delaware flow, into Red Bluff Reservoir equals the state line flow.

27 - Summary of Operations 1947: See S.O. 1947.

28 - Sumner: See Alamagordo.

29 - USGS: United States Geological Survey

APPENDIX B

PECOS RIVER COMPACT
(63 Stat. 159, 160–165)

The State of New Mexico and the State of Texas, acting through their Commissioners, John H. Bliss for the State of New Mexico and Charles H. Miller for the State of Texas, after negotiations participated in by Berkeley Johnson, appointed by the President as the representative of the United States of America, have agreed respecting the uses, apportionment and deliveries of the water of the Pecos River as follows:

ARTICLE I

The major purposes of this Compact are to provide for the equitable division and apportionment of the use of the waters of the Pecos River; to promote interstate comity; to remove causes of present and future controversies; to make secure and protect present development within the states; to facilitate the construction of works for, (a) the salvage of water, (b) the more efficient use of water, and (c) the protection of life and property from floods.

ARTICLE II

As used in this Compact:

(a) The term "Pecos River" means the tributary of the Rio Grande which rises in north-central New Mexico and flows in a southerly direction through New Mexico and Texas and joins the Rio Grande near the town of Langtry, Texas, and includes all tributaries of said Pecos River.

(b) The term "Pecos River Basin" means all of the contributing drainage area of the Pecos River and its tributaries above its mouth near Langtry, Texas.

(c) "New Mexico" and "Texas" mean the State of New Mexico and the State of Texas, respectively; "United States" means the United States of America.

(d) The term "Commission" means the agency created by this Compact for the Administration thereof.

(e) The term "deplete by man's activities" means to diminish the stream flow of the Pecos River at any given point as the result of beneficial consumptive uses of water within the Pecos River Basin above such point. For the purposes of this Compact it does not include the diminution of such flow by encroachment of salt cedars or other like growth, or by deterioration of the channel of the stream.

(f) The term "Report of the Engineering Advisory Committee" means that certain report of the Engineering Advisory Committee dated January, 1948, and all appendices thereto; including, basic data, processes, and analyses utilized in preparing that report, all of which were reviewed, approved, and adopted by the Commissioners signing this Compact at a meeting held in Santa Fe, New Mexico, on December 3, 1948, and which are included in the Minutes of that meeting.

(g) The term "1947 condition" means that situation in the Pecos River Basin as described and defined in the Report of the Engineering Advisory Committee. In determining any question of fact hereafter arising as to such situation, reference shall be made to, and decisions shall be based on, such report.

(h) The term "water salvaged" means that quantity of water which may be recovered and made available for beneficial use and which quantity of water under the 1947 condition was non-beneficially consumed by natural processes.

(i) The term "unappropriated flood waters" means water originating in the Pecos River Basin above Red Bluff Dam in Texas, the impoundment of which will not deplete the water usable by the storage and diversion facilities existing in either state under the 1947 condition and which if not impounded will flow past Girvin, Texas.

ARTICLE III

(a) Except as stated in paragraph (f) of this Article, New Mexico shall not deplete by man's activities the flow of the Pecos River at the New Mexico-Texas state line below an amount which will give to Texas a quantity of water equivalent to that available to Texas under the 1947 condition.

(b) Except as to the unappropriated flood waters thereof, the apportionment of which is included in and provided for by paragraph (f) of this Article, the beneficial consumptive use of the waters of the Delaware River is hereby apportioned to Texas, and the quantity of such beneficial consumptive use shall be included in determining waters received under the provisions of paragraph (a) of this Article.

(c) The beneficial consumptive use of water salvaged in New Mexico through the construction and operation of a project or projects by the United States or by joint undertakings of Texas and New Mexico, is hereby apportioned forty-three per cent (43%) to Texas and fifty-seven per cent (57%) to New Mexico.

(d) Except as to water salvaged, apportioned in paragraph (c) of this Article, the beneficial consumptive use of water which shall be non-beneficially consumed, and which is recovered, is hereby apportioned to New Mexico but not to have the effect of diminishing the quantity of water available to Texas under the 1947 condition.

(e) Any water salvaged in Texas is hereby apportioned to Texas.

(f) Beneficial consumptive use of unappropriated flood waters is hereby apportioned fifty per cent (50%) to Texas and fifty per cent (50%) to New Mexico.

ARTICLE IV

(a) New Mexico and Texas shall cooperate to support legislation for the authorization and construction of projects to eliminate non-beneficial consumption of water.

(b) New Mexico and Texas shall cooperate with agencies of the United States to devise and effectuate means of alleviating the salinity conditions of the Pecos River.

(c) New Mexico and Texas each may:

(i) Construct additional reservoir capacity to replace reservoir capacity made unusable by any cause.

(ii) Construct additional reservoir capacity for the utilization of water salvaged and unappropriated flood waters apportioned by this Company [sic] to such state.

(iii) Construct additional reservoir capacity for the purpose of making more efficient use of water apportioned by this Compact to such state.

(d) Neither New Mexico nor Texas will oppose the construction of any facilities permitted by this Compact, and New Mexico and Texas will cooperate to obtain the construction of facilities that will be of joint benefit to the two states.

(e) The Commission may determine the conditions under which Texas may store water in works constructed in and operated by New Mexico.

(f) No reservoir shall be constructed and operated in New Mexico above Avalon Dam for the sole benefit of Texas unless the Commission shall so determine.

(g) New Mexico and Texas each has the right to construct and operate works for the purpose of preventing flood damage.

(h) All facilities shall be operated in such manner as to carry out the terms of this Compact.

ARTICLE V

(a) There is hereby created an interstate administrative agency to be known as the "Pecos River Commission." The Commission shall be composed of one Commissioner representing each of the states of New Mexico and Texas, designated or appointed in accordance with the laws of each such state, and, if designated by the President, one Commissioner representing the United States. The President

is hereby requested to designate such a Commissioner. If so designated, the Commissioner representing the United States shall be the presiding officer of the Commission, but shall not have the right to vote in any of the deliberations of the Commission. All members of the Commission must be present to constitute a quorum.

(b) The salaries and personal expenses of each Commissioner shall be paid by the government which he represents. All other expenses which are incurred by the Commission incident to the administration of this Compact and which are not paid by the United States shall be borne equally by the two states. On or before November 1 of each even numbered year the Commission shall adopt and transmit to the Governors of the two states and to the President a budget covering an estimate of its expenses for the following two years. The payment of the expenses of the Commission and of its employees shall not be subject to the audit and accounting procedures of either of the two states. However, all receipts and disbursements of funds handled by the Commission shall be audited yearly by a qualified independent public accountant and the report of the audit shall be included in, and become a part of, the annual report of the Commission.

(c) The Commission may appoint a secretary who, while so acting, shall not be an employee of either state. He shall serve for such term, receive such salary, and perform such duties as the Commission may direct. The Commission may employ such engineering, legal, clerical, and other personnel as in its judgment may be necessary for the performance of its functions under this Compact. In the hiring of employees the Commission shall not be bound by the civil service laws of either state.

(d) The Commission, so far as consistent with this Compact, shall have power to:

1. Adopt rules and regulations;

2. Locate, establish, construct, operate, maintain, and abandon watergaging stations, independently or in cooperation with appropriate governmental agencies;

3. Engage in studies of water supplies of the Pecos River and its tributaries, independently or in cooperation with appropriate governmental agencies;

4. Collect, analyze, correlate, preserve and report on data as to the stream flows, storage, diversions, salvage, and use of the waters of the Pecos River and its tributaries, independently or in cooperation with appropriate governmental agencies;

5. Make findings as to any change in depletion by man's activities in New Mexico, and on the Delaware River in Texas;

6. Make findings as to the deliveries of water at the New Mexico-Texas state line;

7. Make findings as to the quantities of water salvaged and the amount thereof delivered at the New Mexico-Texas state line;

8. Make findings as to quantities of water non-beneficially consumed in New Mexico;

9. Make findings as to quantities of unappropriated flood waters;

10. Make findings as to the quantities of reservoir losses from reservoirs constructed in New Mexico which may be used for the benefit of both states, and as to the share thereof charged under Article VI hereof to each of the states;

11. Acquire and hold such personal and real property as may be necessary for the performance of its duties hereunder and to dispose of the same when no longer required;

12. Perform all functions required of it by this Compact and do all things necessary, proper or convenient in the performance of its duties hereunder, independently or in cooperation with appropriate governmental agencies;

13. Make and transmit annually to the Governors of the signatory states and to the President of the United States on or before the last day of February of each year, a report covering the activities of the Commission for the preceding year.

(e) The Commission shall make available to the Governor of each of the signatory states any information within its possession at any time, and shall always provide free access to its records by the Governors of each of the states, or their representatives, or authorized representatives of the United States.

(f) Findings of fact made by the Commission shall not be conclusive in any court, or before any agency or tribunal, but shall constitute prima facie evidence of the facts found.

(g) The organization meeting of the Commission shall be held within four months from the effective date of this Compact.

ARTICLE VI

The following principles shall govern in regard to the apportionment made by Article III of this Compact:

(a) The Report of the Engineering Advisory Committee, supplemented by additional data hereafter accumulated, shall be used by the Commission in making administrative determinations.

(b) Unless otherwise determined by the Commission, depletions by man's activities, state-line flows, quantities of water salvaged, and quantities of unappropriated flood waters shall be determined on the basis of three-year periods reckoned in continuing progressive series beginning with the first day of January next succeeding the ratification of this Compact.

(c) Unless and until a more feasible method is devised and adopted by the Commission the inflow-outflow method, as described in the Report of the Engineering Advisory Committee, shall be used to:

(i) Determine the effect on the state-line flow of any change in depletions by man's activities or otherwise, of the waters of the Pecos River in New Mexico.

(ii) Measure at or near the Avalon Dam in New Mexico the quantities of water salvaged.

(iii) Measure at or near the state line any water released from storage for the benefit of Texas as provided for in subparagraph (d) of this Article.

(iv) Measure the quantities of unappropriated flood waters apportioned to Texas which have not been stored and regulated by reservoirs in New Mexico.

(v) Measure any other quantities of water required to be measured under the terms of this Compact which are susceptible of being measured by the inflow-outflow method.

(d) If unappropriated flood waters apportioned to Texas are stored in facilities constructed in New Mexico, the following principles shall apply:

(i) In case of spill from a reservoir constructed in and operated by New Mexico, the water stored to the credit of Texas will be considered as the first water to spill.

(ii) In case of spill from a reservoir jointly constructed and operated, the water stored to the credit of either state shall not be affected.

(iii) Reservoir losses shall be charged to each state in proportion to the quantity of water belonging to that state in storage at the time the losses occur.

(iv) The water impounded to the credit of Texas shall be released by New Mexico on the demand of Texas.

(e) Water salvaged shall be measured at or near the Avalon Dam in New Mexico and to the quantity thereof shall be added a quantity equal to the quantity of salvaged water depleted by man's activities above Avalon Dam. The quantity of water salvaged that is apportioned to Texas shall be delivered by New Mexico at the New Mexico-Texas state line. The quantity of unappropriated flood waters impounded under paragraph (d) of this Article, when released shall be delivered by New Mexico at the New Mexico-Texas state line in the quantity released less channel losses. The unappropriated flood waters apportioned to Texas by this Compact that are not impounded in reservoirs in New Mexico shall be measured and delivered at the New Mexico-Texas state line.

(f) Beneficial use shall be the basis, the measure, and the limit of the right to use water.

ARTICLE VII

In the event of importation of water by man's activities to the Pecos River Basin from any other river basin the state making the importation shall have the exclusive use of such imported water.

ARTICLE VIII

The provisions of this Compact shall not apply to, or interfere with, the right or power of either signatory state to regulate within its boundaries the appropriation, use and control of water, not inconsistent with its obligations under this Compact.

ARTICLE IX

In maintaining the flows at the New Mexico-Texas state line required by this Compact, New Mexico shall in all instances apply the principle of prior appropriation within New Mexico.

ARTICLE X

The failure of either state to use the water, or any part thereof, the use of which is apportioned to it under the terms of this Compact, shall not constitute a relinquishment of the right to such use, nor shall it constitute a forfeiture or abandonment of the right to such use.

ARTICLE XI

Nothing in this Compact shall be construed as;

(a) Affecting the obligations of the United States under the Treaty with the United Mexican States (Treaty Series 994);

(b) Affecting any rights or powers of the United States, its agencies or instrumentalities, in or to the waters of the

Pecos River, or its capacity to acquire rights in and to the use of said waters;

(c) Subjecting any property of the United States, its agencies or instrumentalities, to taxation by any state or subdivision thereof, or creating any obligation on the part of the United States, its agencies or instrumentalities, by reason of the acquisition, construction or operation of any property or works of whatever kind, to make any payment to any state or political subdivision thereof, state agency, municipality or entity whatsoever, in reimbursement for the loss of taxes;

(d) Subjecting any property of the United States, its agencies or instrumentalities, to the laws of any state to an extent other than the extent to which such laws would apply without regard to this Compact.

ARTICLE XII

The consumptive use of water by the United States or any of its agencies, instrumentalities or wards, shall be charged as a use by the state in which the use is made; provided, that such consumptive use incident to the diversion, impounding, or conveyance of water in one state for use in the other state shall be charged to such latter state.

ARTICLE XIII

This Compact shall not be construed as establishing any general principle or precedent applicable to other interstate streams.

ARTICLE XIV

This Compact may be terminated at any time by appropriate action of the legislatures of both of the signatory states. In the event of such termination, all rights established under it shall continue unimpaired.

ARTICLE XV

This Compact shall become binding and obligatory when it shall have been ratified by the legislature of each State

and approved by the Congress of the United States. Notice of ratification by the legislature of each State shall be given by the Governor of that State to the Governor of the other State and to the President of the United States, and the President is hereby requested to give notice to the Governor of each State of approval by the Congress of the United States.

IN WITNESS WHEREOF, the Commissioners have executed three counterparts hereof each of which shall be and constitute an original, one of which shall be deposited in the archives of the Department of State of the United States, and one of which shall be forwarded to the Governor of each State.

Done at the City of Santa Fe, State of New Mexico, this 3rd day of December, 1948.

APPENDIX C

INTERSTATE COMPACT PROVISIONS FOR ADMINISTRATION

Difficulties of administration and possibilities of impasse have been recognized in some, but not all, interstate water compacts. For a general discussion of the problem see Witmer, Documents on the Use and Control of Interstate and International Streams (1968), House Document No. 319, 90th Cong. 2d Sess. 2d edition.

A number of compacts leave administration to the appropriate state officials of the signatory States. See:

La Plata, 43 Stat. 796;

South Platte, 44 Stat. 19;

Republican, 57 Stat. 86;

Belle Fourche, 58 Stat. 94;

Snake River, 64 Stat. 29;

Upper Niobrara, 83 Stat. 86.

The Rio Grande Compact of Colorado, New Mexico, and Texas, 53 Stat. 785, created a Commission with a nonvoting representative of the United States. The Compact specifically recognizes recourse to the United States Supreme Court for resolution of future disputes over the character and quality of water.

The first Compact to provide internally for resolution of an impasse was the Arkansas River Compact between Colorado and Kansas, 63 Stat. 145. It provides for arbitration, upon the request of the two signatory States, by the United States representative, or other arbitrator. No provision is made for dispute resolution when approval of arbitration is withheld.

The Upper Colorado River Basin Compact, 63 Stat. 31, a five-State compact, gives the federal representative one vote, out of a total of six votes, but requires four votes for action.

In the Yellowstone River Compact, 65 Stat. 663, the federal representative has a tie-breaking vote in a controversy between Wyoming and Montana, two of the three signatory States.

Of purely historical interest, a compact negotiated by Idaho and Wyoming, but never ratified, provided procedurally complex terms for resolution of an impasse. See Witmer, supra, p. 315.

The Sabine River Compact, 68 Stat. 690, provides that in case of a tie vote, arbitration may be had on request of either State.

The Klamath River Compact, 71 Stat. 497, provides for arbitration in the event of an impasse.

The Arkansas-Oklahoma Arkansas River Compact, 87 Stat. 569, provides for, but does not require, arbitration in event of an impasse.

The four-State Red River Compact, 94 Stat. 3305, provides for two commissioners from each State with six concurring votes needed for action, except that when the proposed action affects water rights in a signatory State, eight concurring votes are required.